IN THE CLAIMS

1. (previously presented) A method of inspecting a portion of a weld between at least two materials, said method comprising:

pivotably mounting at least one ultrasonic phased array probe within a probe housing, the probe housing comprising a plurality of sides, an open top end and an open bottom end, the plurality of sides defining a housing cavity, each ultrasonic phased array probe comprising at least one transducer having a plurality of elements, the at least one ultrasonic phased array probe pivotable within the probe housing;

attaching the probe housing to an outer surface of the portion of the weld so that the outer surface of the portion of the weld acts as a bottom end of the housing cavity;

filling at least a portion of the housing cavity with a liquid so that the liquid is in contact with the outer surface of the portion of the weld; and

scanning the weld with the at least one ultrasonic phased array probe.

2. (original) A method in accordance with Claim 1 wherein the weld is between at least two similar materials.

3. (original) A method in accordance with Claim 1 wherein the weld is between at least two dissimilar materials.

4. (previously presented) A method in accordance with Claim 1 wherein mounting at least one ultrasonic phased array probe within the probe housing further comprises rotating the at least one ultrasonic phased array probe within the probe housing about a plurality of angles using an actuator.

5. (previously presented) A method in accordance with Claim 1 wherein mounting at least one ultrasonic phased array probe within the probe housing comprises positioning at least one ultrasonic phased array probe partially within the liquid and at a predetermined location along the weld.

6. (previously presented) A method in accordance with Claim 1 wherein the probe housing comprises a seal attached to a bottom edge of the plurality of sides, and attaching the probe housing to the surface of the weld comprises releasably attaching the probe housing such that a water-tight seal exists between the housing and the surface of the portion of the weld, wherein the seal is an elastomer.

7. (original) A method in accordance with Claim 1 wherein scanning the weld with the at least one ultrasonic phased array probe comprises electrically steering at least one of the elements such that an ultrasonic beam is emitted at a plurality of steering angles.

8. (original) A method in accordance with Claim 7 wherein electrically steering at least one of the transducer elements comprises actuating and deactuating at least one of the transducer elements along a path in a predetermined order.

9. (original) A method in accordance with Claim 7 wherein electronically steering the emitted ultrasonic beam comprises actuating at least one of the elements along a substantially axial path across the portion of the weld in a linear path in predetermined increments from an outer surface toward an inner surface.

10. (original) A method in accordance with Claim 7 wherein electronically steering the emitted ultrasonic beam comprises actuating at least one of the elements along a substantially circular path across the portion of the weld from an outer surface toward an inner surface.

11.-14. (canceled)

15. (previously presented) A method of inspecting a portion of at least two pipes coupled by a weld within a nuclear reactor pressure vehicle, said method comprising:

pivotably mounting at least one ultrasonic phased array probe within a probe housing, the probe housing comprising a plurality of sides, an open top end and an open bottom end, the plurality of sides defining a housing cavity, the at least one ultrasonic phased array probe includes at least one transducer having a plurality of elements, and the probe housing is

configured to position the at least one ultrasonic phased array probe at a predetermined location on the weld, the at least one ultrasonic phased array probe pivotable within the probe housing;

attaching the probe housing to an outer surface of the at least two pipes such that the portion of the weld to be inspected is positioned therein, the outer surface of the of the at least two pipes acts as a bottom end of the housing cavity;

filling at least a portion of the housing cavity with a liquid so that the liquid is in contact with the outer surface of the of the at least two pipes; and

scanning the portion of the weld with the at least one ultrasonic phased array probe, wherein the probe emits a steerable ultrasonic beam.

16. (previously presented) A method in accordance with Claim 15 wherein mounting at least one ultrasonic phased array probe within the probe housing further comprises rotating the at least one ultrasonic phased array probe within the probe housing about a plurality of angles using an actuator.

17. (previously presented) A method in accordance with Claim 15 wherein the probe housing comprises a seal attached to a bottom edge of the plurality of sides, and attaching the probe housing to the surface of the at least two pipes comprises releasably attaching the probe housing such that a water-tight seal exists between the probe housing and the surface of the portion of the weld, wherein the seal is an elastomer.

18. (original) A method in accordance with Claim 15 wherein scanning the weld with the at least one ultrasonic phased array probe comprises electrically steering at least one of the transducer elements at a plurality of steering angles.

19. (original) A method in accordance with Claim 18 wherein electrically steering further comprises actuating and deactuating at least one of the transducer elements along a substantially axial path across the portion of the weld in a linear path in a predetermined order from an outer surface toward an inner surface.

20. (original) A method in accordance with Claim 18 wherein electrically steering further comprises actuating and deactuating at least one of the transducer elements along a substantially circular path across the portion of the weld from the outer surface toward the inner surface.